

METHODS FOR OPTIMAL USAGE AND IMPROVED VALUATION OF
CORROSIVE PETROLEUM FEEDSTOCKS AND FRACTIONS (LAW521)

ABSTRACT OF THE DISCLOSURE

The invention is a method to improve the prediction of the corrosivity of organic acids in petroleum crudes, feedstocks and distillation fractions by providing a more accurate, repeatable, and rapid means of determining the TAN from the IR spectrum of the material. The method can be easily practiced in refinery, terminal, and assay laboratories. It can be used in conjunction with models and hardware to optimize the usage and improve the valuation of corrosive feed stocks. The invention can be implemented on-line for blending optimization. It comprises the steps of irradiating a heated petroleum sample with IR radiation to produce its IR absorption spectrum, and predicting the TAN from the spectrum using a linear, multivariate regression model. The IR TAN value is then used as input to blending, valuation, and corrosion models.